

## CLAIMS

1. A radio base station apparatus that receives data transferred from a radio network control apparatus via  
5 a wired transmission path having a predetermined band and performs wireless transmission of the data to a mobile terminal apparatus via a wireless transmission path, comprising:

a measuring section that measures a usage state of  
10 the band;

a first upper limit setting section that sets a first upper limit of a transfer rate of the data, associated with the wired transmission path, based on a measurement result of the measuring section; and

15 a determination section that determines the transfer rate based on a set first upper limit.

2. The radio base station apparatus of claim 1, further comprising:

20 a storage section that temporarily stores received data;

a data quantity measuring section that measures a quantity of data stored in the storage section;

an average value calculation section that calculates  
25 an average value of a transmission rate of data transmitted by wireless transmission; and

a second upper limit setting section that sets a

second upper limit of the transfer rate, associated with the wireless transmission path, based on a quantity of data measured by the data quantity measuring section and an average value calculated by the average value calculation section;

wherein the determination section performs determination of the transfer rate based on the smaller value of a set first upper limit and second upper limit.

3. The radio base station apparatus according to claim 1, wherein:

the measuring section calculates a band usage rate of the wired transmission path as a result of measurement of a usage state of the band; and

the first upper limit setting section raises a first upper limit when a calculated band usage rate is less than or equal to a first threshold value, and lowers a first upper limit when a calculated band usage rate is greater than or equal to a second threshold value;

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4. The radio base station apparatus according to claim 3, wherein the measuring section measures throughput of the wireless transmission path, and performs band usage rate calculation by dividing that measurement result by a band of the wireless transmission path.

5. The radio base station apparatus according to claim

1, wherein:

the measuring section calculates a band usage rate of the wired transmission path as a result of measurement of a usage state of the band; and

5 the first upper limit setting section monitors a band usage rate calculated in a predetermined measurement cycle over a monitoring period having a length greater than or equal to the measurement cycle, and changes a first upper limit based on a result of that monitoring.

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6. The radio base station apparatus according to claim 5, wherein:

the first upper limit setting section performs determination of whether or not to lower a first upper  
15 limit based on a monitoring result in a first monitoring period, and performs determination of whether or not to raise a first upper limit based on a monitoring result in a second monitoring period; and

a length of the first monitoring period is less than  
20 or equal to a length of the second monitoring period.

7. The radio base station apparatus according to claim 5, wherein the first upper limit setting section detects that a calculated band usage rate is continuously 100%  
25 by performing band usage rate monitoring.

8. The radio base station apparatus according to claim

5, wherein the first upper limit setting section detects that a calculated band usage rate is continuously less than 100% by performing band usage rate monitoring.

- 5 9. The radio base station apparatus according to claim 5, wherein the measuring section measures throughput of the wireless transmission path, and performs band usage rate calculation by dividing that measurement result by a band of the wireless transmission path.

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10. A data transfer control method implemented in a radio base station apparatus that receives data transferred from a radio network control apparatus via a wired transmission path having a predetermined band and performs wireless transmission of the data to a mobile terminal apparatus via a wireless transmission path, comprising:

- a measuring step of measuring a usage state of the band;
- 20 a first upper limit setting step of setting a first upper limit of a transfer rate of the data, associated with the wired transmission path, based on a measurement result of the measuring step; and
- a determining step of determining the transfer rate
- 25 based on a first upper limit set in the first upper limit setting step.